

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of)
)
PUBLIC UTILITIES COMMISSION)
)
Instituting a Proceeding to)
Investigating Distributed Generation)
in Hawaii)
_____)

PUC Docket 03-0371

PUBLIC UTILITIES
COMMISSION

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LIFE OF THE LAND'S

DIRECT TESTIMONY

EXHIBITS

&

CERTIFICATE OF SERVICE

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1 Testimony of Jessica Wooley

2 July 10, 2004

3 RE: the economic benefits of shifting energy production from imported fuel
4 toward locally available renewable resources in Hawai`i

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7 Aloha. My name is Jessica Wooley. I have a Masters degree in Agricultural and
8 Resource Economics from the University of California at Berkeley. I am also an
9 attorney and have practiced environmental law in Hawai`i. I helped prepare a
10 report on environmental valuation and the Hawai`i economy in 1999.¹ I have
11 had a long-standing interest in energy policy. And I am a member of the board
12 for Life of the Land.

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14 I recently reviewed numerous articles² that evaluate costs and benefits of
15 renewable energy.³ The economic research shows that an investment in locally
16 available renewable energy rather than continued reliance on imported fossil
17 fuels offers major economic advantages (in addition to environmental

¹ Environmental Valuation and the Hawaiian Economy. This report was prepared by Brooks Kaiser, Nancy Krause, Dee Mecham, Jessica Wooley and James Roumasset, Principal Investigator. www.uhero.hawaii.edu/workingpaper/HawaiiEnviroEvaluation.pdf

² Job Jolt: The Economic Impacts of Repowering the Midwest: The Clean Energy Development Plan for the Heartland. Regional Economics Applications Laboratory for the Environmental Law & Policy Center. (December 2002); Economic Impact of Renewable Energy in Pennsylvania. Black & Veatch. (March 2004); The Potential Economic Impact of Nevada's Renewable Energy Resources. Center for Business and Economic Research at the University of Nevada, Las Vegas (2003); EDS 10: Imports, Exports and Economic Development by Enterprise Honolulu; EDS 11: Export Enhancement and Import Substitution - Key Strategies for Hawaii's Prosperity: by Enterprise Honolulu; Importing Energy, Exporting Jobs. U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE); Sustainable Energy Jobs Report. The Allen Consulting Group. Australia (2003).

³ Renewable energy is harvested from wind, solar radiation, biomass, water, or geothermal sources.

benefits). This is because locally available renewable energy utilizes local resources; money is spent locally rather than sent out of the state; and money can thus be made available to foster additional economic activity locally. In addition, renewable energy production is more labor intensive than conventional technology, so more jobs are created and more money is invested.

As reported and quantified in many states, this kind of shift in energy production creates significantly more local jobs, greater earnings, and greater economic output.⁴ Although these multiple benefits have not been estimated in Hawai`i (to my knowledge), they should be quite large and beneficial to Hawai`i's economy.

In addition, the cost of producing electricity could be much lower for producers and ratepayers - the magnitude of the benefit depends on the price paid for importing fossil fuels. In 2001, the Department of Business, Economic Development & Tourism submitted to the state a detailed analysis of annual costs of producing electricity with several different ratios of renewable energy to fossil fuel use.⁵ This analysis, even assuming a world oil price of \$25 per barrel, concluded that an increase in the use of renewable energy could lower these costs.

⁴ Note that with the multiplier effect, initial expenditures for renewable energy industry wages and salaries generate additional income and jobs for the local economy.

⁵ Analysis of Renewable Portfolio Standard Options for Hawaii. GDS Associates. Hawaii Department of Business, Economic Development, and Tourism (DBEDT) (2001)

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A shift away from fossil fuel use and toward renewable energy use would also lead to a reduction in negative externalities, particularly the negative effects of fossil fuel use on the environment and health and safety (these costs are not measured by domestic product). These benefits, while likely significant, are not as easily quantified as the above mentioned benefits.

Other benefits to Hawai`i's economy could accrue due to reduced exposure to volatile fuel prices and improved risk management through diversification.

The potential for significant economic benefits with a shift from imported fossil fuels toward locally produced renewable energy is particularly glaring here in Hawai`i where the burden of fuel costs and the percentage of local dollars lost to oil imports are the highest in the nation. Compared to all other states, Hawai`i uses oil for the greatest percentage of its electricity generation (about 80% compared to 3% for the nation as a whole). Compounding this, the cost of electricity in Hawai`i is the highest of any state in the United States -- and about twice the national average revenue per KWh.

Simply stated, spending more of Hawai`i's dollars to develop locally available renewable energy rather than importing fossil fuels would be good for our economy and the environment.

Life of the Land's Exhibits

- LOL-Ex-1 Job Jolt: The Economic Impacts of Repowering the Midwest: The Clean Energy Development Plan for the Heartland. Regional Economics Applications Laboratory for the Environmental Law & Policy Center. (December 2002);
- LOL-Ex-2 Economic Impact of Renewable Energy in Pennsylvania. Black & Veatch. (March 2004);
- LOL-Ex-3 The Potential Economic Impact of Nevada's Renewable Energy Resources. Center for Business and Economic Research at the University of Nevada, Las Vegas (2003);
- LOL-Ex-4 EDS 10: Imports, Exports and Economic Development by Enterprise Honolulu;
- LOL-Ex-5 EDS 11: Export Enhancement and Import Substitution - Key Strategies for Hawaii's Prosperity: by Enterprise Honolulu;
- LOL-Ex-6 Importing Energy, Exporting Jobs. U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE);
- LOL-Ex-7 Sustainable Energy Jobs Report. The Allen Consulting Group. Australia (2003).
- LOL-Ex-8 Analysis of Renewable Portfolio Standard Options for Hawaii. GDS Associates. Hawaii Department of Business, Economic Development, and Tourism (DBEDT) (2001)

Certificate of Service

I hereby certify that I have this date served a copy of the foregoing Information Requests by Life of the Land, Docket Number 03-0371, upon the following parties. Life of the Land hand-delivered the Original plus 10 copies to the PUC; 3 copies to the Consumer Advocate. Life of the Land mailed 2 copies to Alan M. Oshima, Esq. (KIUC); and 1 copy to each of the following parties: Thomas W. Williams, Jr. Esq. (HECO); William Bonnett (HECO); Patsy H. Nanbu (HECO); Alton Miyamoto (KIUC); George T. Aoki, Esq. (TGC); Steven P. Golden (TGC); Gail S. Gilman (TGC); Brian Moto (Maui); Cindy Y. Young (Maui); Calvin K. Kobayashi (Maui); Warren S. Bollmeier II (HREA); John Crouch (HREA); Rick Reed (HREA); Sandra-Ann Y. H. Wong, Esq. (HESS); Christopher S. Colman (HESS); Michael de'Marci (HESS); Lani D. H. Nakazawa, Esq. (Kauai); Glenn Sato (Kauai); John W. K. Chang, Esq. (DAG); Maurice H. Kaya, P.E. (DBEDT); Steven Alber (DBEDT).

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DATED: July 14, 2004, in Honolulu, Hawaii



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